
Chapter 1: The Outlook for Deficits and Debt

Overview

As federal spending in response to the coronavirus pandemic wanes and the economic expansion continues, the budget deficit in 2022 is expected to shrink substantially from the amounts recorded in 2020 and 2021 (when deficits, relative to the size of the economy, were larger than at any time since World War II). Nevertheless, under the assumption that current laws governing taxes and spending will generally remain unchanged in future years, federal deficits are set to remain large by historical standards and to generally increase throughout the next decade, the Congressional Budget Office projects (see Figure 1-1). Federal debt measured relative to the size of the economy is projected to dip over the next two years and then to rise each year through 2032.

Large Deficits

In CBO's baseline budget projections, the federal deficit equals \$1.0 trillion this year, and deficits average \$1.6 trillion per year between 2023 and 2032. The cumulative deficit over the 2023–2032 period totals \$15.7 trillion (see Table 1-1).¹ Deficits average 5.1 percent of gross domestic product (GDP) over that period, and in 2032, the deficit equals 6.1 percent of GDP. By comparison, over the past 50 years, the annual deficit has averaged 3.5 percent of GDP. From 2025 through 2032, projected annual deficits exceed 4.5 percent of GDP. At no time since at least 1930 have deficits remained that large for longer than five years.

1. CBO constructs its baseline in accordance with provisions set forth in the Balanced Budget and Emergency Deficit Control Act of 1985 (Deficit Control Act, Public Law 99-177) and the Congressional Budget and Impoundment Control Act of 1974 (P.L. 93-344). CBO's baseline is not intended to be a forecast of budgetary outcomes; rather, it is meant to provide a benchmark that policymakers can use to assess the potential effects of policy decisions.

Growing Debt

Despite the large deficits, federal debt held by the public is projected to dip from 100 percent of GDP at the end of 2021 to 96 percent in 2023. The rapid growth of nominal GDP—reflecting both high inflation and the continued growth of real GDP (that is, GDP adjusted to remove the effects of inflation)—helps hold down the amount of debt relative to the nation's output. After 2023, debt is projected to increase as a percentage of GDP, rising to 110 percent at the end of 2032. At that point, federal debt would be higher as a percentage of GDP than at any point in the nation's history—and heading still higher in the following two decades.

Uncertainty of Budgetary Outcomes

CBO's budget projections are subject to considerable uncertainty. Those projections depend on the agency's economic projections and many other factors, including the course of the ongoing pandemic. Developments that vary from what CBO projects could lead to budgetary outcomes that are very different from the baseline. That uncertainty increases in later years of the projection period because changes in the economy, demographics, and a variety of other factors are more difficult to anticipate over longer time horizons.

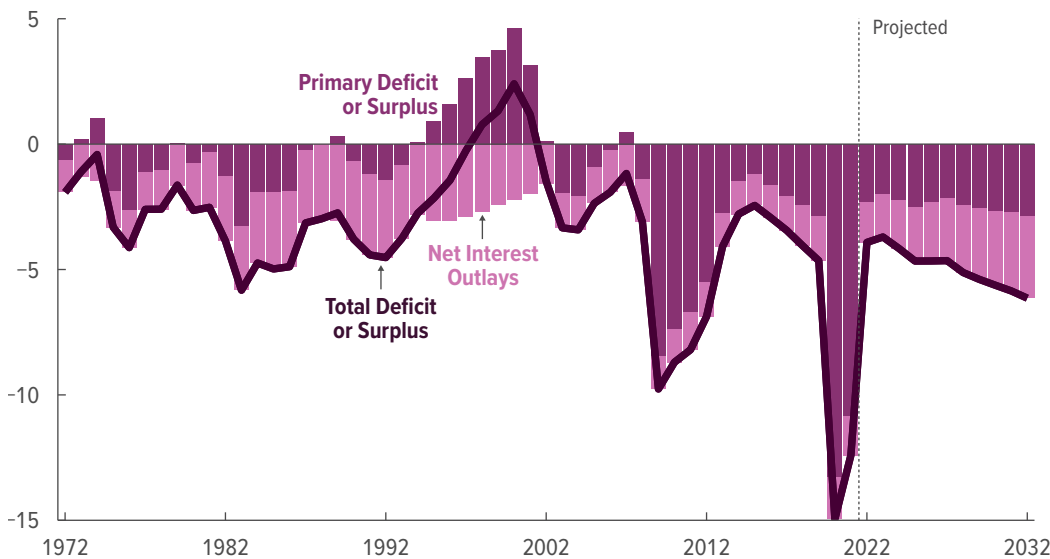
Moreover, outcomes will depend on future legislative action, which could increase or decrease budget deficits. For example:

- CBO's baseline projections reflect the scheduled expiration of a number of individual income tax provisions contained in Public Law 115-97 (referred to as the 2017 tax act in this report). If the scheduled expirations did not occur and current tax policies were continued instead, much larger deficits and greater debt would result: By 2032, the deficit, measured as a percentage of GDP and including associated debt-service costs, would exceed CBO's baseline estimate by 1.1 percentage points; and debt held by the public would grow to 116 percent of GDP.

Figure 1-1.

Total Deficits, Primary Deficits, and Net Interest Outlays

Percentage of GDP



In CBO's projections, primary and total deficits initially shrink as a percentage of GDP and then generally increase, particularly in the second half of the projection period. The aging of the population and the rising costs of health care boost primary deficits; net interest outlays, which double as a percentage of GDP over the projection period, further increase total deficits.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Primary deficits exclude net outlays for interest.

When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. All projections have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.

GDP = gross domestic product.

- CBO's baseline projections reflect the assumption that funding provided for 2022 by the Infrastructure Investment and Jobs Act (P.L. 117-58) continues each year with adjustments for inflation, the standard assumption for appropriations. If that funding was not assumed to continue beyond the amounts stated in that act, the deficit, including associated debt-service costs, would be smaller by 0.5 percent of GDP, and debt would be lower by about 2.5 percent of GDP in 2032. (For more information on other alternatives to CBO's baseline projections, see Chapter 5.)

Long-Term Budgetary Pressures

Beyond 2032, if current laws remained generally unchanged, deficits would continue to grow relative to the size of the economy over the following 20 years, keeping debt measured as a percentage of GDP on an upward trajectory throughout that period. Those large budget deficits would arise because outlays—particularly for interest on federal debt and for Medicare—would grow steadily under current law, and revenues would not keep pace with those outlays.

Deficits

Under the assumption that current laws governing taxes and spending generally remain in place, the amount by which the government's outlays exceed its revenues will fall from \$2.8 trillion in 2021 to \$1.0 trillion in 2023. That shortfall is similar, in nominal terms, to the one recorded in 2019 before the onset of the pandemic. The budget deficit is projected to increase in most years thereafter, reaching \$2.3 trillion in 2032. Relative to the size of the economy, this year's deficit is projected to total 4.2 percent of GDP, about a third as large as the 12.4 percent shortfall recorded last year.

The Deficit in 2022

According to CBO's projections, under current law, the budget deficit in 2022 will be \$1.0 trillion, \$1.7 trillion less than the shortfall recorded last year, as spending in response to the pandemic wanes and revenues increase. That decrease would be larger if not for a shift in the timing of certain payments. Because October 1, 2022 (the first day of fiscal year 2023), falls on a weekend, certain payments that would ordinarily be made on

Table 1-1.

CBO's Baseline Budget Projections, by Category

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total	
													2023– 2027	2023– 2032
In Billions of Dollars														
Revenues														
Individual income taxes	2,044	2,623	2,579	2,542	2,539	2,771	2,970	3,049	3,170	3,301	3,436	3,582	13,400	29,938
Payroll taxes	1,314	1,465	1,572	1,625	1,669	1,726	1,786	1,853	1,923	1,995	2,072	2,150	8,378	18,372
Corporate income taxes	372	395	456	478	483	473	457	461	470	480	491	505	2,347	4,755
Other	317	354	283	279	290	310	336	352	370	385	403	424	1,498	3,433
Total	4,047	4,836	4,890	4,924	4,982	5,280	5,548	5,716	5,934	6,161	6,402	6,662	25,623	56,498
On-budget	3,095	3,782	3,754	3,737	3,753	4,008	4,229	4,347	4,514	4,689	4,875	5,078	19,481	42,984
Off-budget ^a	952	1,054	1,136	1,186	1,228	1,272	1,320	1,369	1,420	1,472	1,527	1,584	6,142	13,514
Outlays														
Mandatory	4,834	3,751	3,674	3,656	3,834	4,032	4,206	4,542	4,564	4,911	5,162	5,461	19,401	44,041
Discretionary	1,636	1,722	1,758	1,798	1,862	1,930	1,996	2,057	2,096	2,155	2,209	2,261	9,344	20,122
Net interest	352	399	442	525	604	681	756	842	925	1,007	1,099	1,194	3,009	8,075
Total	6,822	5,872	5,874	5,980	6,300	6,643	6,958	7,441	7,585	8,074	8,469	8,915	31,754	72,238
On-budget	5,819	4,794	4,688	4,705	4,942	5,208	5,436	5,826	5,872	6,258	6,546	6,887	24,979	56,368
Off-budget ^a	1,004	1,077	1,186	1,275	1,358	1,436	1,521	1,614	1,713	1,816	1,923	2,029	6,775	15,870
Total Deficit	-2,775	-1,036	-984	-1,056	-1,318	-1,364	-1,409	-1,725	-1,651	-1,912	-2,067	-2,253	-6,131	-15,740
On-budget	-2,724	-1,013	-934	-968	-1,189	-1,200	-1,207	-1,480	-1,358	-1,568	-1,671	-1,808	-5,498	-13,384
Off-budget ^a	-52	-23	-50	-88	-130	-164	-202	-245	-293	-344	-396	-445	-633	-2,356
Primary Deficit ^b	-2,423	-637	-542	-531	-714	-683	-653	-883	-726	-905	-969	-1,060	-3,122	-7,665
Debt Held by the Public	22,284	24,173	25,193	26,217	27,561	28,925	30,326	32,105	33,760	35,808	37,949	40,213	n.a.	n.a.
Memorandum:														
Gross Domestic Product	22,365	24,694	26,240	27,291	28,271	29,266	30,332	31,487	32,716	33,996	35,318	36,680	141,400	311,596
As a Percentage of Gross Domestic Product														
Revenues														
Individual income taxes	9.1	10.6	9.8	9.3	9.0	9.5	9.8	9.7	9.7	9.7	9.7	9.8	9.5	9.6
Payroll taxes	5.9	5.9	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Corporate income taxes	1.7	1.6	1.7	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.7	1.5
Other	1.4	1.4	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.1
Total	18.1	19.6	18.6	18.0	17.6	18.0	18.3	18.2	18.1	18.1	18.1	18.2	18.1	18.1
On-budget	13.8	15.3	14.3	13.7	13.3	13.7	13.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Off-budget ^a	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Outlays														
Mandatory	21.6	15.2	14.0	13.4	13.6	13.8	13.9	14.4	14.0	14.4	14.6	14.9	13.7	14.1
Discretionary	7.3	7.0	6.7	6.6	6.6	6.6	6.6	6.5	6.4	6.3	6.3	6.2	6.6	6.5
Net interest	1.6	1.6	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.3	2.1	2.6
Total	30.5	23.8	22.4	21.9	22.3	22.7	22.9	23.6	23.2	23.7	24.0	24.3	22.5	23.2
On-budget	26.0	19.4	17.9	17.2	17.5	17.8	17.9	18.5	17.9	18.4	18.5	18.8	17.7	18.1
Off-budget ^a	4.5	4.4	4.5	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	4.8	5.1
Total Deficit	-12.4	-4.2	-3.8	-3.9	-4.7	-4.7	-4.6	-5.5	-5.0	-5.6	-5.9	-6.1	-4.3	-5.1
On-budget	-12.2	-4.1	-3.6	-3.5	-4.2	-4.1	-4.0	-4.7	-4.2	-4.6	-4.7	-4.9	-3.9	-4.3
Off-budget ^a	-0.2	-0.1	-0.2	-0.3	-0.5	-0.6	-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-0.4	-0.8
Primary Deficit ^b	-10.8	-2.6	-2.1	-1.9	-2.5	-2.3	-2.2	-2.8	-2.2	-2.7	-2.7	-2.9	-2.2	-2.5
Debt Held by the Public	99.6	97.9	96.0	96.1	97.5	98.8	100.0	102.0	103.2	105.3	107.5	109.6	n.a.	n.a.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

n.a. = not applicable.

a. The revenues and outlays of the Social Security trust funds and the net cash flow of the Postal Service are classified as off-budget.

b. Primary deficits exclude net outlays for interest.

Table 1-2.

CBO's Baseline Projections of Outlays and Deficits, Adjusted to Exclude Effects of Timing Shifts

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
In Billions of Dollars												
Payments That Are Shifted in CBO's Baseline ^a	0	-68	-12	80	0	0	0	-113	113	0	0	0
Outlays Adjusted for Timing Shifts												
Mandatory	4,834	3,688	3,662	3,731	3,834	4,032	4,206	4,435	4,671	4,911	5,162	5,461
Discretionary	1,636	1,717	1,757	1,803	1,862	1,930	1,996	2,051	2,102	2,155	2,209	2,261
Net interest	352	399	442	525	604	681	756	842	925	1,007	1,099	1,194
Total	6,822	5,804	5,861	6,060	6,300	6,643	6,958	7,328	7,698	8,074	8,469	8,915
Total Deficit Adjusted for Timing Shifts	-2,775	-968	-972	-1,136	-1,318	-1,364	-1,409	-1,612	-1,764	-1,912	-2,067	-2,253
Primary Deficit Adjusted for Timing Shifts ^b	-2,423	-569	-529	-611	-714	-683	-653	-770	-839	-905	-969	-1,060
As a Percentage of Gross Domestic Product												
Outlays Adjusted for Timing Shifts												
Mandatory	21.6	14.9	14.0	13.7	13.6	13.8	13.9	14.1	14.3	14.4	14.6	14.9
Discretionary	7.3	7.0	6.7	6.6	6.6	6.6	6.6	6.5	6.4	6.3	6.3	6.2
Net interest	1.6	1.6	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.3
Total	30.5	23.5	22.3	22.2	22.3	22.7	22.9	23.3	23.5	23.7	24.0	24.3
Total Deficit Adjusted for Timing Shifts	-12.4	-3.9	-3.7	-4.2	-4.7	-4.7	-4.6	-5.1	-5.4	-5.6	-5.9	-6.1
Primary Deficit Adjusted for Timing Shifts ^b	-10.8	-2.3	-2.0	-2.2	-2.5	-2.3	-2.2	-2.4	-2.6	-2.7	-2.7	-2.9
Memorandum:												
Baseline Deficit, Unadjusted												
In billions of dollars	-2,775	-1,036	-984	-1,056	-1,318	-1,364	-1,409	-1,725	-1,651	-1,912	-2,067	-2,253
As a percentage of GDP	-12.4	-4.2	-3.8	-3.9	-4.7	-4.7	-4.6	-5.5	-5.0	-5.6	-5.9	-6.1

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product.

a. When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. Those shifts primarily affect mandatory outlays; discretionary outlays are also affected, but to a much lesser degree. Net interest outlays are not affected.

b. Primary deficits exclude net outlays for interest.

that day will instead be made in fiscal year 2022.² If not for that shift, this year's projected shortfall would have been \$68 billion smaller (see Table 1-2).

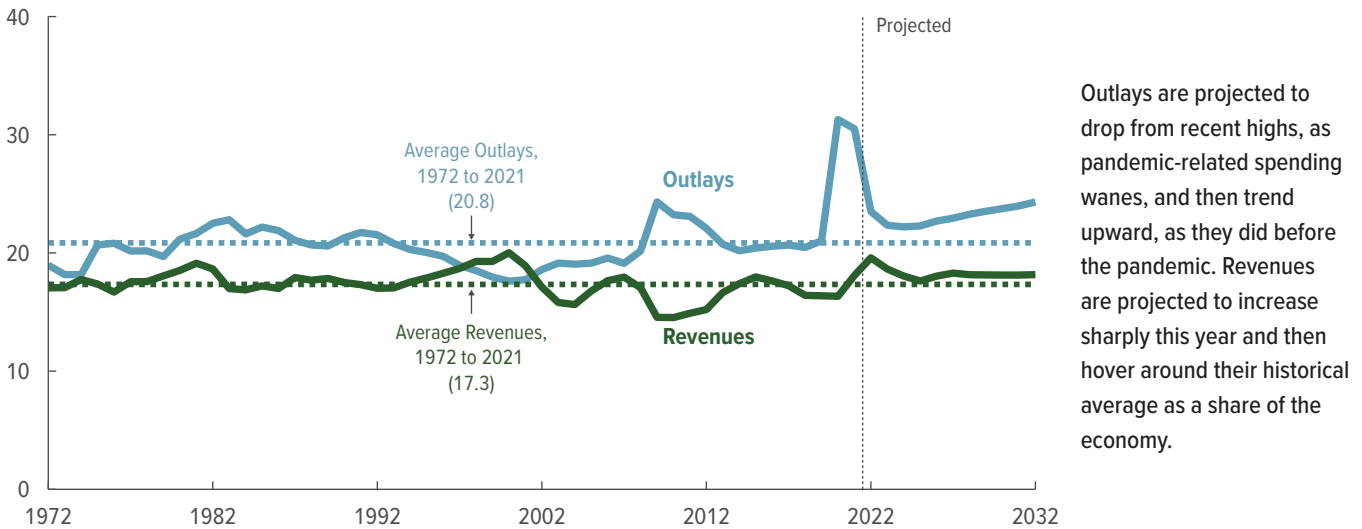
2. October 1 will fall on a weekend again in 2023 and 2028. In such cases, certain payments due on October 1 are made at the end of September and thus are recorded in the previous fiscal year. Those shifts will noticeably boost outlays and the deficit in fiscal year 2028; the timing shifts will reduce federal outlays and deficits in fiscal years 2024 and 2029. (Because one set of payments will be shifted out of 2023 and one set will be shifted into 2023, the overall effect of shifts in payments in 2023 will be small, on net.)

CBO projects that, under current law, revenues will increase by 19 percent in 2022, a slightly faster rate of growth than the 18 percent increase that occurred in 2021. That growth in 2022 results in part from the current economic expansion and the end of temporary provisions enacted in response to the pandemic that reduced revenues. However, even after accounting for those factors, tax collections so far in 2022 have been larger than currently available data on economic activity would suggest. CBO will evaluate the reasons for the discrepancy as more detailed information from tax returns becomes available. In total, revenues are projected to rise by \$789 billion in 2022, to \$4.8 trillion. Revenues will

Figure 1-2.

Total Outlays and Revenues

Percentage of Gross Domestic Product



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. All projections have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.

reach 19.6 percent of GDP this year—the largest that receipts have been as a share of the economy in more than two decades.

Outlays, which rose by 4 percent in 2021, are projected to decrease by 15 percent (or \$1.0 trillion) this year, to \$5.8 trillion, as pandemic-related spending falls. (The amount for 2022 and the projections for outlays and deficits cited throughout the remainder of the chapter reflect adjustments to exclude the effects of timing shifts.) As a percentage of GDP, outlays are estimated to fall from 30.5 percent in 2021 to 23.5 percent this year. That decrease is the net result of changes to the three major components of federal spending:

- *Mandatory spending* is expected to fall by 24 percent (or \$1.1 trillion) in 2022, to \$3.7 trillion, as spending related to the pandemic declines rapidly.³

3. Mandatory spending consists of outlays for some federal benefit programs, such as Social Security, Medicare, and Medicaid, and certain other payments to people, businesses, nonprofit institutions, and state and local governments. It is governed by statutory criteria and is not normally controlled by the annual appropriation process.

- *Discretionary outlays* are projected to rise by 5 percent (or \$81 billion) this year, to \$1.7 trillion. That rate of increase is faster than the 1 percent rate of increase observed last year but slower than the 22 percent jump in 2020.⁴ (The growth in discretionary outlays that occurred in 2020 stemmed primarily from legislation enacted in response to the ongoing pandemic.)
- *Net outlays for interest* are expected to rise from \$352 billion in 2021 to \$399 billion in 2022, an increase of 13 percent (or \$47 billion). Higher inflation this year accounts for most of that change because it boosts the principal of inflation-protected securities, which are recorded as outlays for interest.

Deficits From 2023 to 2032

In CBO's baseline projections, the budget deficit—relative to GDP—grows from 3.7 percent next year to 4.7 percent in 2025 and remains near that amount through 2027. Thereafter, the deficit increases further,

4. Discretionary spending is controlled by appropriation acts that specify the amounts that are to be provided for a broad array of government activities, including, for example, defense, law enforcement, and transportation.

totaling 6.1 percent in 2032. Since 1946, the deficit has exceeded 6.1 percent of GDP in only six years: from 2009 to 2012 (following the 2007–2009 recession) and in 2020 and 2021 (during the ongoing pandemic). Relative to the size of the economy, outlays increase over the 2023–2032 period, particularly in the second half of the period, but revenues remain relatively stable (see Figure 1-2 on page 9).

In CBO’s projections, primary deficits—that is, deficits excluding net outlays for interest—fluctuate over the first half of the projection period, remaining just above 2.0 percent of GDP in most years. They are projected to increase steadily in the second half, equaling 2.9 percent of GDP in 2032. All told, primary deficits average 2.5 percent of GDP over the 10-year period. In the 62 years from 1947 to 2008, those deficits exceeded 2.0 percent of GDP only three times. In the past 13 years, however, they have exceeded that amount 10 times—in large part because of legislation that was enacted in response to the last two recessions.

Net outlays for interest, which equal 1.7 percent of GDP in 2023 in CBO’s baseline, increase in each year of the projection period as interest rates and federal debt rise. By 2032, net interest outlays total 3.3 percent of GDP, more than twice what they are this year and higher than they have been in any year since at least 1940 (the first year for which the Office of Management and Budget reports such data).

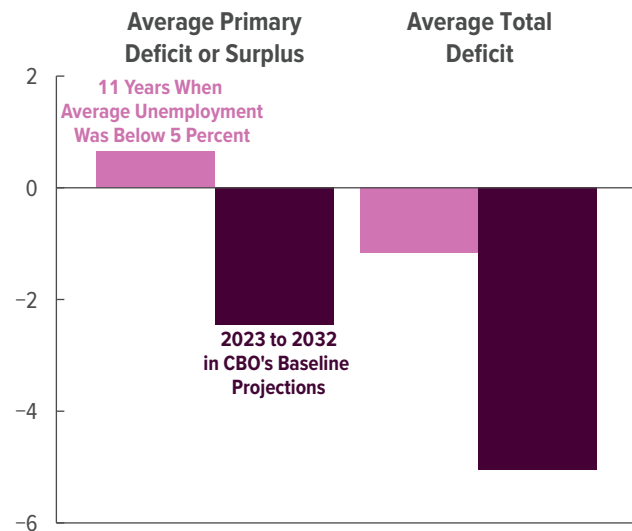
Historically, when unemployment has been low, deficits have been much smaller as a percentage of GDP than the amounts CBO currently projects (see Figure 1-3). Between 2023 and 2032—a period in which the average unemployment rate is projected to remain below 5 percent—deficits in CBO’s baseline (adjusted to exclude the effects of timing shifts) are as small as 3.7 percent of GDP and average 5.1 percent of GDP. From 1972 to 2021, the unemployment rate was below 5 percent in 11 years. Deficits averaged 1.2 percent of GDP during those 11 years, and only twice (in 2018 and 2019) did deficits exceed 3.7 percent of GDP. Excluding net interest outlays, the budget, on average, showed a primary surplus of 0.7 percent of GDP during those 11 years; the primary deficit in CBO’s baseline averages 2.5 percent of GDP over the projection period.

Revenues. In CBO’s projections, revenues fall as a percentage of GDP between 2022 and 2025, when they total 17.6 percent of GDP. Receipts from individual income taxes, which are projected to fall from 10.6 percent of GDP in 2022 to 9.0 percent in 2025, account

Figure 1-3.

A Comparison of Deficits in CBO’s Baseline Projections With Deficits and Surpluses at Other Times in the Past 50 Years When Unemployment Was Low

Percentage of GDP



Although the unemployment rate remains below 5 percent from 2023 to 2032 in CBO’s projections, deficits in those years are large by historical standards. Total deficits average 5.1 percent of GDP, and primary deficits, 2.5 percent. The average unemployment rate was less than 5 percent in 11 of the past 50 fiscal years. In those 11 years, total deficits averaged 1.2 percent of GDP, and the budget recorded an average primary surplus equal to 0.7 percent of GDP.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Primary deficits or surpluses exclude net outlays for interest.

The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force.

When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. All projections have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.

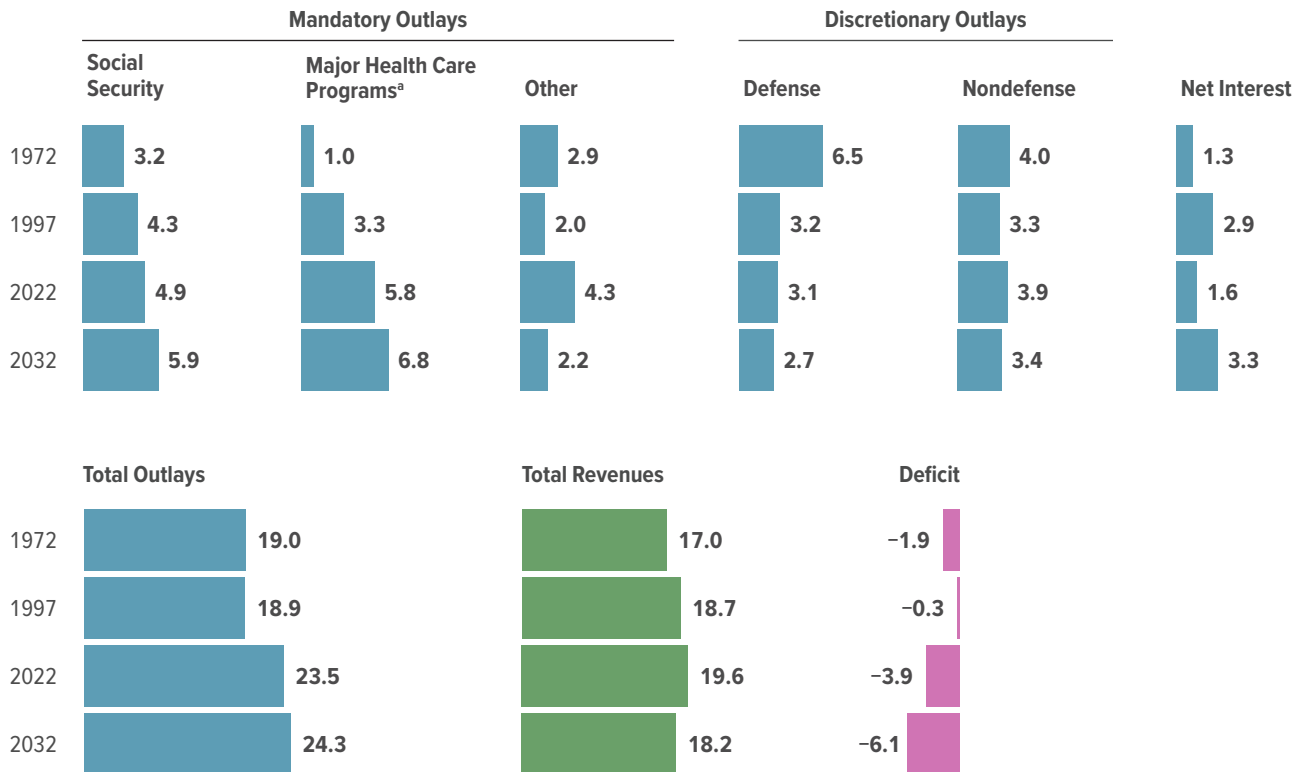
GDP = gross domestic product.

for most of that decrease. In CBO’s estimation, some of the recent strength in those receipts is temporary. In addition, CBO expects that net income of the Federal Reserve System, which is remitted to the Treasury and counted as revenue, will decline because of increases in interest rates and changes in the central bank’s portfolio of assets. (As interest rates rise, so does the amount of

Figure 1-4.

CBO's Baseline Projections of Outlays and Revenues, Compared With Actual Values 25 and 50 Years Ago

Percentage of Gross Domestic Product



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

In 2022, October 1 (the first day of fiscal year 2023) falls on a weekend, so certain payments that are due on that date will instead be made in September, thus boosting outlays in fiscal year 2022 and reducing them in 2023. Such shifts affect projections of outlays for the major health care programs, other mandatory outlays, defense discretionary outlays, total outlays, and the deficit. The data have been adjusted to exclude the effects of those timing shifts.

a. Consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, and the Children's Health Insurance Program, as well as subsidies for health insurance purchased through the marketplaces established under the Affordable Care Act and related spending.

interest paid on the reserves that banks hold with the Federal Reserve, which reduces its net remittances.)

Under the assumption that current laws generally remain unchanged, revenues in CBO's baseline increase to 18.0 percent of GDP in 2026 and to 18.3 percent in 2027 and then remain just under that amount through 2032. Receipts from individual income taxes drive that growth in 2026 and 2027, rising by 0.8 percentage points over those two years, to 9.8 percent of GDP. Most of the increase in individual income taxes results from scheduled changes in tax rules, including the expiration of nearly all the changes made to those taxes by the 2017 tax act. Those expirations cause tax liabilities to rise in calendar year 2026, boosting receipts in 2026 and 2027. (For a more detailed discussion of CBO's revenue projections, see Chapter 4.)

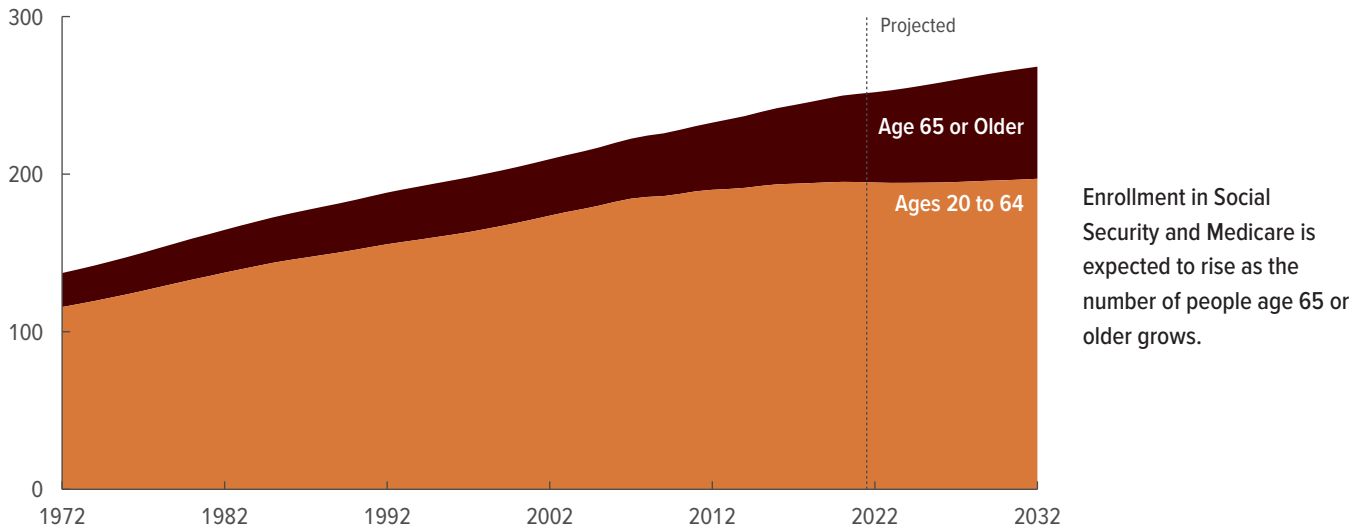
Outlays. In CBO's baseline projections, total outlays relative to the size of the economy remain mostly stable in the first few years of the projection period and then rise over the rest of the decade, boosted by greater spending for interest costs and large benefit programs (see Figure 1-4). In the baseline, outlays (adjusted to exclude shifts in timing) remain just above 22.0 percent of GDP between 2023 and 2025 and then rise thereafter, reaching 24.3 percent in 2032. Since 1946, outlays have reached or exceeded 24 percent only three times: in 2009, during the 2007–2009 recession; and in 2020 and 2021, during the current pandemic. (For a more detailed discussion of CBO's projections of outlays, see Chapter 3.)

Net Interest Outlays. CBO estimates that, if current law remained unchanged, net outlays for interest would

Figure 1-5.

Population, by Age Group

Millions of People



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

increase substantially over the projection period. In CBO's projections, interest rates rise through 2024 and net interest outlays increase at an average annual rate of 15 percent between 2022 and 2025. After 2025, growth in net interest outlays slows somewhat but remains robust, averaging increases of 10 percent per year through 2032. That slower rate of increase in later years occurs primarily because interest rates in CBO's economic forecast are relatively flat over the second half of the projection period. (For a more detailed discussion of CBO's economic projections, see Chapter 2.) Nevertheless, increasing federal debt would continue to put upward pressure on federal interest spending. All told, net interest outlays are projected to increase from 1.7 percent of GDP in 2023 to 3.3 percent in 2032, well above the 50-year average of 2.0 percent.

Mandatory Spending. In CBO's projections, outlays for mandatory programs fall relative to the size of the economy through 2025, when they equal 13.6 percent of GDP. They increase steadily over the remainder of the decade, totaling 14.9 percent of GDP in 2032, about the same as the share projected for 2022. By comparison, since 1962, the only other time mandatory outlays have exceeded 14.9 percent of GDP was in 2020 and 2021, during the pandemic. Such outlays averaged nearly 11 percent of GDP between 1972 and 2021.

That pattern occurs mostly because spending related to the pandemic is projected to fall over the next few years, and two underlying factors—the aging of the population and the rapid growth in federal health care costs—put upward pressure on mandatory outlays, particularly for Social Security and Medicare. Those trends are as follows:

- The number of people age 65 or older is now about two and a half times what it was 50 years ago. Over the next decade, as members of the baby-boom generation age and as life expectancy continues to increase, that number is expected to rise by about one-quarter (see Figure 1-5). As a result, the number of participants in Social Security and Medicare is projected to continue growing faster than the overall population.
- Federal health care costs per beneficiary are projected to continue growing faster than GDP per capita.

As a result of those two trends, outlays for Social Security and Medicare are projected to rise in relation to GDP over the 2023–2032 period, increasing from 8.2 percent in 2023 to 10.3 percent in 2032. All other mandatory outlays are projected to fall over that period, from 5.7 percent of GDP in 2023 to 4.6 percent in 2032. That decline results, in part, from falling spending related to the pandemic over the next few years. In addition,

benefit amounts for many of those programs are adjusted for inflation each year, and in CBO's economic forecast, inflation is less than the rate of growth of nominal GDP. Beyond the projection period, the rising costs of health care and the aging of the population will continue to put pressure on the federal budget.

Discretionary Spending. In CBO's baseline, discretionary outlays increase at an average annual rate of 2.8 percent over the 2023–2032 period, reflecting the assumption that funding will grow with inflation.⁵ Because that rate of growth is slower than the growth rate projected for the economy, such outlays fall as a percentage of GDP. In 2032, discretionary outlays are projected to total 6.2 percent of GDP, 0.8 percentage points below CBO's estimate of such outlays in 2022. By comparison, those outlays have averaged 8.1 percent of GDP over the past 50 years.

Debt

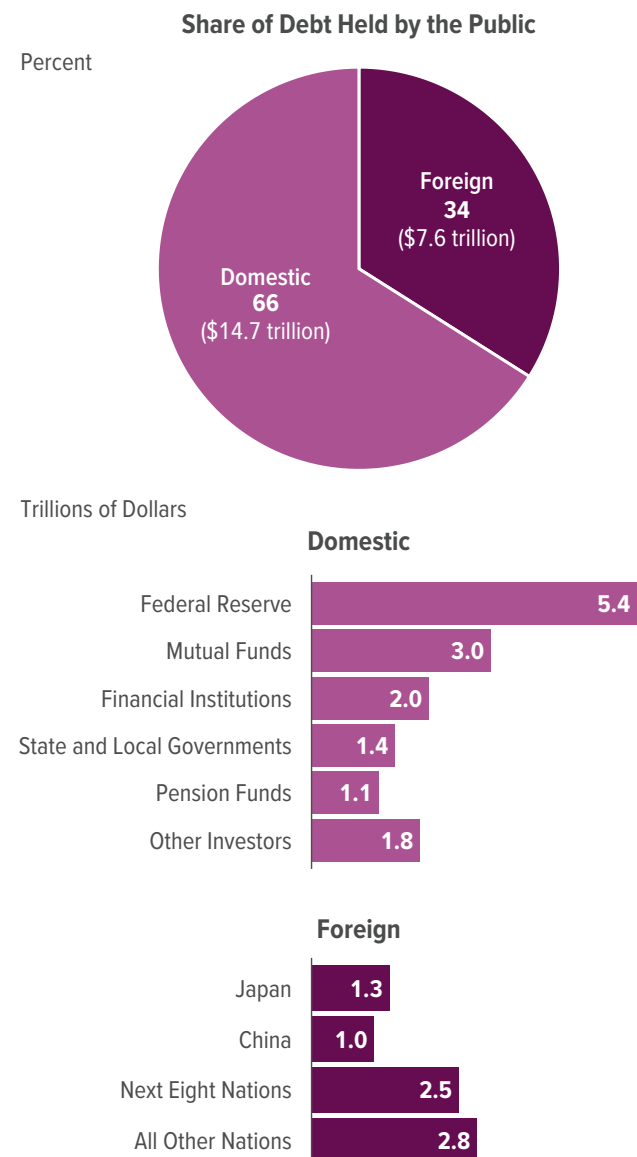
Debt held by the public—a common measure of federal debt—consists mostly of securities that the Treasury issues to raise cash to fund the federal government's activities and to pay off its maturing liabilities.⁶ The Treasury borrows money from the public by selling securities in the capital markets; that debt is purchased by many entities, including various buyers in the United States, private investors overseas, and central banks of other countries. Of the \$22.3 trillion in federal debt held by the public at the end of 2021, two-thirds was held by domestic investors and one-third was held by foreign investors. The largest U.S. holders of federal debt as of September 30, 2021, were the Federal Reserve (24 percent), mutual funds (13 percent), and financial institutions (9 percent). Investors in Japan and China had the largest foreign holdings of Treasury securities, together accounting for 11 percent of U.S. public debt (see Figure 1-6).

Aside from federal debt held by the public, other measures are sometimes used for various purposes, such as to provide a more comprehensive picture of the government's financial condition or to account for debt held by federal trust funds.

5. In CBO's baseline projections, discretionary funding related to federal personnel is inflated using the employment cost index for wages and salaries of workers in private industry; other discretionary funding is adjusted using the gross domestic product price index.
6. A small amount of debt held by the public is issued by other agencies, mainly the Tennessee Valley Authority.

Figure 1-6.

Holders of Federal Debt, 2021



Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#data.

Debt Held by the Public

Under the assumptions that govern CBO's baseline, the federal government is projected to borrow another \$18 trillion from the end of 2021 through 2032, boosting debt held by the public to \$40 trillion, or 110 percent of GDP, by the end of the projection period (see Table 1-3). That amount of debt relative to the size of the economy would be the greatest in the nation's history and would be more than double the 50-year average of 46 percent.

Table 1-3.

CBO's Baseline Projections of Federal Debt

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Debt Held by the Public at the Beginning of the Year	21,017	22,284	24,173	25,193	26,217	27,561	28,925	30,326	32,105	33,760	35,808	37,949
Changes in Debt Held by the Public												
Deficit	2,775	1,036	984	1,056	1,318	1,364	1,409	1,725	1,651	1,912	2,067	2,253
Other means of financing ^a	-1,508	853	36	-32	26	*	-8	54	4	136	74	10
Total	1,267	1,889	1,020	1,024	1,344	1,364	1,401	1,779	1,655	2,048	2,141	2,264
Debt Held by the Public at the End of the Year												
In billions of dollars	22,284	24,173	25,193	26,217	27,561	28,925	30,326	32,105	33,760	35,808	37,949	40,213
As a percentage of GDP	99.6	97.9	96.0	96.1	97.5	98.8	100.0	102.0	103.2	105.3	107.5	109.6
Memorandum:												
Federal Financial Assets ^b	1,647	2,500	2,536	2,504	2,530	2,530	2,522	2,576	2,580	2,716	2,790	2,800
Debt Net of Financial Assets												
In billions of dollars	20,637	21,673	22,657	23,713	25,031	26,395	27,804	29,529	31,180	33,092	35,160	37,413
As a percentage of GDP	92.3	87.8	86.3	86.9	88.5	90.2	91.7	93.8	95.3	97.3	99.6	102.0
Federal Reserve Holdings of Debt Held by the Public	5,431	5,536	4,636	3,796	3,315	3,540	3,930	4,351	4,772	5,176	5,581	5,986
Debt Net of Financial Assets and Federal Reserve Holdings												
In billions of dollars	15,206	16,136	18,021	19,917	21,716	22,855	23,874	25,179	26,408	27,916	29,578	31,427
As a percentage of GDP	68.0	65.3	68.7	73.0	76.8	78.1	78.7	80.0	80.7	82.1	83.7	85.7
Gross Federal Debt ^c	28,386	30,621	31,761	32,887	34,245	35,597	36,835	38,377	39,849	41,599	43,445	45,350
Debt Subject to Limit ^d	28,401	30,637	31,777	32,903	34,261	35,614	36,852	38,394	39,866	41,617	43,464	45,370
Average Interest Rate on Debt Held by the Public (Percent)	1.8	1.9	2.0	2.2	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.1

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product; * = between zero and \$500 million.

- Factors not included in budget totals that affect the government's need to borrow from the public. Those factors include changes in the government's cash balances and cash flows associated with federal credit programs, such as those related to student loans. (Only the subsidy costs of those programs are reflected in the budget deficit.)
- The value of outstanding student loans and other credit transactions, cash balances, and various financial instruments.
- Federal debt held by the public plus Treasury securities held by federal trust funds and other government accounts.
- The amount of federal debt that is subject to the overall limit set in law. That measure of debt excludes debt issued by the Federal Financing Bank and reflects certain other adjustments that are excluded from gross federal debt. The debt limit is currently set at \$31.4 trillion.

Such high and rising debt would have significant negative consequences, both for the economy and for the federal budget, including the following:

- As interest rates rise—as they are projected to do in CBO's economic forecast—federal spending on interest payments, including payments to foreign

holders of U.S. debt, would increase substantially. More generally, the United States' fiscal position would be more vulnerable to an increase in interest rates because costs to service the debt rise more for a given increase in interest rates when debt is higher than when it is lower.

- That debt path would also increase borrowing costs for the private sector, which would result in lower business investment and slow the growth of economic output over time.⁷
- The likelihood of a fiscal crisis in the United States would increase. Specifically, the risk would rise of investors' losing confidence in the U.S. government's ability to service and repay its debt, causing interest rates to increase abruptly and inflation to spiral upward, or other disruptions.
- The likelihood of less abrupt, but still significant, adverse effects—such as expectations of higher rates of inflation, an erosion of confidence in the U.S. dollar as an international reserve currency, and more difficulty in financing public and private activity in international markets—would increase.
- Policymakers might feel constrained from implementing deficit-financed fiscal policy to respond to unforeseen events or for other purposes, such as to promote economic activity or strengthen national defense.

Other Measures of Debt

Four other measures are sometimes used in reference to federal debt:

- *Debt held by the public minus financial assets* subtracts from debt held by the public the value of the government's financial assets, such as student loans. That measure provides a more comprehensive picture of the government's financial condition than does debt held by the public. Calculating that measure is not straightforward, however, because neither the financial assets that are included nor the methods for evaluating them are clearly defined. In CBO's baseline, that measure varies roughly in line with debt alone, but is 7 percent to 10 percent smaller.
- *Debt held by the public minus financial assets and debt held by the Federal Reserve* excludes Treasury securities held by the Federal Reserve in addition to financial assets held by the federal government.⁸ That measure

better reflects the government's overall effect on credit markets. In CBO's projections, that measure increases from \$16 trillion (or 65 percent of GDP) in 2022 to \$31 trillion (or 86 percent of GDP) in 2032. Federal Reserve holdings are projected to fall as a percentage of debt held by the public, from 23 percent in 2022 to 15 percent in 2032.

- *Gross federal debt* consists of debt held by the public and Treasury securities held by government accounts (for example, the Social Security trust funds). The latter type of debt does not directly affect the economy and has no net effect on the budget. Although debt held by the public increases by \$16 trillion between the end of 2022 and the end of 2032 in CBO's baseline projections, debt held by government accounts falls by about \$1 trillion, reflecting declines in the balances of many trust funds.⁹ (For a more detailed discussion of those trust funds, see Appendix B.) As a result, gross federal debt is projected to rise by \$15 trillion over that period and to total \$45 trillion at the end of 2032. About 11 percent of that sum would be debt held by government accounts.
- *Debt subject to limit* is the amount of debt that is subject to the statutory limit on federal borrowing; it differs from gross federal debt mainly in that it excludes debt issued by the Federal Financing Bank and includes certain other adjustments that are excluded from measures of gross debt.¹⁰ Currently, the statutory limit on the issuance of new federal debt is set at \$31.4 trillion. In CBO's baseline projections, the amount of outstanding debt subject to limit increases from \$30.6 trillion at the end of 2022 to about \$45 trillion at the end of 2032. (Under the assumptions governing CBO's baseline projections, the Treasury will reach the limit on borrowing sometime in fiscal year 2023; but for the purpose of those projections, CBO assumes that increases in the statutory ceiling will occur as necessary.)

7. When the federal government borrows in financial markets, it competes with other participants for funds. That competition can crowd out private investment, reducing economic output and income in the long term. By contrast, federal debt held by trust funds and other government accounts represents internal transactions of the government and does not directly affect financial markets.

8. Because of its need for flexibility and autonomy in setting monetary policy, the central bank is an independent federal entity. Although it remits earnings to the Treasury (which are recorded as revenues in the federal budget), the Federal Reserve's

receipts and expenditures are not included directly in the federal budget, and the debt it holds is considered to be debt held by the public.

9. In keeping with the rules in section 257 of the Deficit Control Act, CBO's baseline incorporates the assumption that scheduled payments will continue to be made in full after a trust fund has been exhausted, even though there is no legal authority to make such payments.

10. The Federal Financing Bank, a government corporation under the general supervision of the Treasury, assists federal agencies in managing their borrowing and lending programs. It can issue up to \$15 billion of its own debt securities, and that amount does not count against the debt limit.

Relationship Between Debt and Deficits

The net amount the Treasury borrows by selling securities (the amounts that are sold minus the amounts that have matured) is determined primarily by the annual budget deficit. However, several other factors—collectively labeled “other means of financing” and not directly included in budget totals—also affect the government’s need to borrow from the public. Those factors include the cash flows associated with federal credit programs such as student loans (because only the subsidy costs of those programs are reflected in the budget deficit), as well as changes in the government’s cash balances.¹¹ As a result of that additional borrowing, CBO projects, the increase in debt held by the public in 2022 will exceed the deficit this year by about \$850 billion, a significantly larger difference than in most years.

The amount of other means of financing this year is affected by the need for cash to finance credit programs, to replenish the Treasury’s cash balances, and to repay funds used late in fiscal year 2021 before the debt ceiling was increased. Specifically, the government’s need for cash to finance credit programs will, on net, boost debt by about \$380 billion this year, primarily as a result of repaying financial institutions for loans made in response to the pandemic that were guaranteed and subsequently forgiven by the Small Business Administration. (The estimated costs of those guarantees had previously been recorded in the budget.) In addition, CBO estimates that the Treasury will boost its cash balance by \$350 billion in 2022. That increase does not affect the deficit but results in an increase in debt of the same amount. That balance was drawn down late in fiscal year 2021 after the statutory limit on federal debt was reinstated in August 2021, and the Treasury could not issue net additional debt without breaching the limit.

Also, the Treasury began taking a series of other steps in August 2021—known collectively as extraordinary measures—to avoid breaching the debt limit, including suspending investments of the Thrift Savings Plan’s G Fund.¹² Once the debt ceiling was raised in December (early in fiscal year 2022), the G Fund, as required by

law, was made whole (with interest), increasing debt by about \$120 billion.

Between 2023 and 2032, the government’s need for cash to finance new student loans and other credit programs would boost debt, on net, by about \$248 billion, CBO projects. The subsidy costs for those credit programs are included in the projected deficit for each year from 2023 to 2032. However, the cash outlays needed to finance those programs each year—for example, the outlays needed to lend students the sums they will gradually repay—are greater than the net subsidy costs. The Treasury needs to borrow funds each year to make up that difference. (For more information on CBO’s treatment of credit programs, see the section titled “Other Mandatory Programs” in Chapter 3.)

In addition, CBO projects that the Treasury would boost its cash balances, on net, by about \$65 billion between 2023 and 2032. All told, CBO projects that cumulative borrowing would total about \$16.0 trillion over the period, \$0.3 trillion more than the cumulative deficit.

Uncertainty About the Outlook for Deficits and Debt

Even if federal laws remained unchanged for the next decade, actual budgetary outcomes would differ from CBO’s baseline projections because of unanticipated changes in economic conditions and in a host of other factors that affect federal spending and revenues. The current projections are subject to an unusually high degree of uncertainty, which stems from the ongoing pandemic and other world events. The agency develops its projections so that they fall in the middle of the range of likely outcomes, given the baseline assumptions about federal tax and spending policies, while recognizing that actual outcomes will typically differ to some degree from any such projections.

CBO’s projections of outlays and revenues, and therefore of deficits and debt, depend in part on the agency’s economic projections, which include forecasts for such variables as interest rates, inflation, and the growth in productivity. Discrepancies between those forecasts and actual economic outcomes can cause significant differences between baseline budget projections and budgetary outcomes. The potential for such discrepancies in other inputs to the baseline also contributes to uncertainty about CBO’s projections.

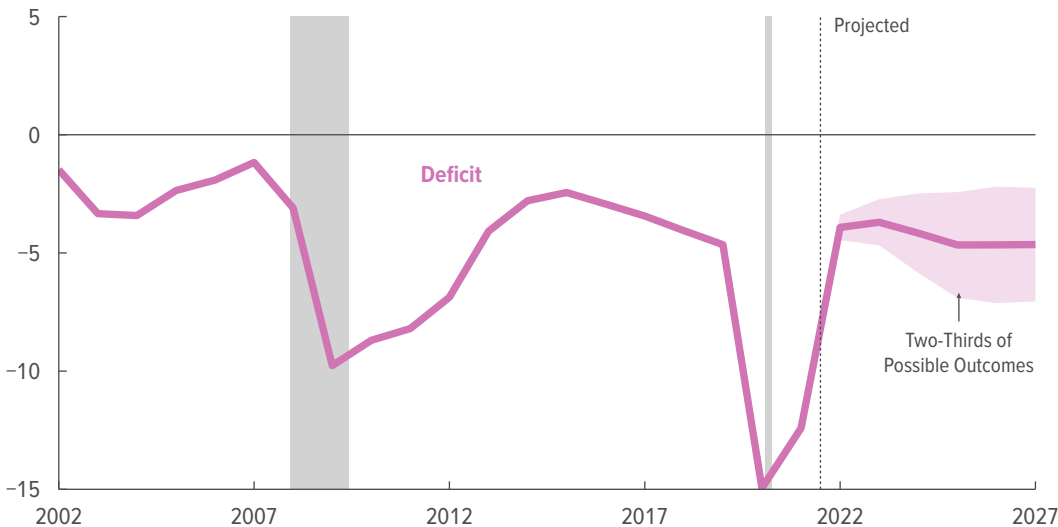
11. For more details on other means of financing and on federal debt more broadly, see Congressional Budget Office, *Federal Debt: A Primer* (March 2020), www.cbo.gov/publication/56165.

12. For more details on extraordinary measures and on the statutory limit on federal debt more broadly, see Congressional Budget Office, *Federal Debt and the Statutory Limit, November 2021* (November 2021), www.cbo.gov/publication/57635.

Figure 1-7.

The Uncertainty of CBO's Baseline Projections of the Budget Deficit

Percentage of Gross Domestic Product



CBO estimates that there is a roughly two-thirds chance that by 2027, the deficit as a share of gross domestic product would be 2.4 percentage points smaller or larger than the agency projects.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

The shaded area around CBO's baseline deficit projection, which encompasses two-thirds of possible outcomes, is based on the errors in CBO's one-, two-, three-, four-, five-, and six-year projections of the deficit for fiscal years 1984 through 2021. Actual outcomes will be affected by legislation enacted in future years. The effects of future legislation are not reflected in this figure.

Historical experience gives some indication of the magnitude of the uncertainty of these projections. The average absolute error of CBO's deficit projection for the second year of its baseline (often referred to as the budget year) was 1.1 percent of GDP between 1985 and 2021.¹³ If CBO's deficit projection for 2023 had an error equal to that average absolute error, the deficit would be larger or smaller than the agency estimates by about \$280 billion. The sixth-year projections of deficits are, as expected, less accurate than the budget-year projections. For CBO's sixth-year projections made for the years 1989 to 2021, the average absolute error was 2.0 percent of GDP. An equivalent error in the current deficit projection of \$1.4 trillion for 2027 would cause the deficit in that year to be larger or smaller than what the agency projects by about \$620 billion.

To help illustrate the uncertainty of CBO's baseline projections, the agency has calculated a range of possible outcomes for the deficit through 2027, under

the assumption that current law does not change (see Figure 1-7). In CBO's baseline, the deficit (adjusted to exclude the effects of timing shifts) equals 3.7 percent of GDP in 2023 and 4.6 percent in 2027. On the basis of an analysis of its past projections, CBO estimates that there is approximately a two-thirds chance that the deficit under current law would be between 2.7 percent and 4.7 percent of GDP in 2023. For 2027, the range is wider: CBO estimates that there is approximately a two-thirds chance that the deficit would be between 2.2 percent and 7.0 percent of GDP.

For CBO's debt projections, estimates for the sixth year of a baseline have been much less accurate than budget-year estimates. Between 1985 and 2021, the average absolute error in budget-year projections of debt held by the public was 1.9 percent of GDP, but the average absolute error in sixth-year projections was 6.9 percent of GDP. Those larger errors occurred because errors in the projections of debt tend to compound over time, thereby increasing the uncertainty of those projections. For example, in CBO's baseline, federal debt is projected to equal 100 percent of GDP in 2027. On the basis of an analysis of its past projections, CBO estimates that there is approximately a two-thirds chance that federal debt under current law would be between 91 percent and 109 percent of GDP in that year.

13. Calculations of CBO's average absolute error exclude the effects of legislation enacted after the agency completed its projections. Calculations used actual GDP recorded for each year. For more information about how CBO calculates those errors, see Congressional Budget Office, *An Evaluation of CBO's Past Deficit and Debt Projections* (September 2019), www.cbo.gov/publication/55234.

Table 1-4.

Key Projections in CBO's Baseline

Percentage of Gross Domestic Product

	2022	2023	Projected Annual Average			
			2024– 2027	2028– 2032	2033– 2042	2043– 2052
Revenues						
Individual income taxes	10.6	9.8	9.4	9.7	10.0	10.5
Payroll taxes	5.9	6.0	5.9	5.9	5.8	5.8
Corporate income taxes	1.6	1.7	1.6	1.4	1.4	1.3
Other	1.4	1.1	1.1	1.1	1.2	1.3
Total Revenues	19.6	18.6	18.0	18.1	18.4	18.9
Outlays						
Mandatory						
Social Security	4.9	5.0	5.3	5.8	6.1	6.3
Major health care programs ^a	5.9	5.8	5.8	6.5	7.6	8.6
Other	4.4	3.1	2.6	2.2	2.1	1.9
Subtotal	15.2	14.0	13.7	14.5	15.8	16.8
Discretionary	7.0	6.7	6.6	6.3	6.0	6.0
Net interest	1.6	1.7	2.2	3.0	4.0	6.2
Total Outlays	23.8	22.4	22.5	23.8	25.8	28.9
Deficit	-4.2	-3.8	-4.5	-5.6	-7.4	-10.0
Debt Held by the Public at the End of the Period	98	96	100	110	140	185
Memorandum:						
Social Security						
Revenues ^b	4.5	4.5	4.6	4.6	4.6	4.5
Outlays ^c	4.9	5.0	5.3	5.8	6.1	6.3
Contribution to the Federal Deficit ^d	-0.4	-0.5	-0.8	-1.2	-1.5	-1.8
Medicare						
Revenues ^b	1.5	1.5	1.5	1.6	1.6	1.6
Outlays ^c	4.0	3.9	4.2	4.9	6.1	7.1
Offsetting receipts	-0.9	-0.6	-0.7	-0.9	-1.2	-1.4
Contribution to the Federal Deficit ^d	-1.6	-1.7	-2.0	-2.5	-3.4	-4.1
Gross Domestic Product at the End of the Period (Trillions of dollars)	24.7	26.2	30.3	36.7	52.6	74.5

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

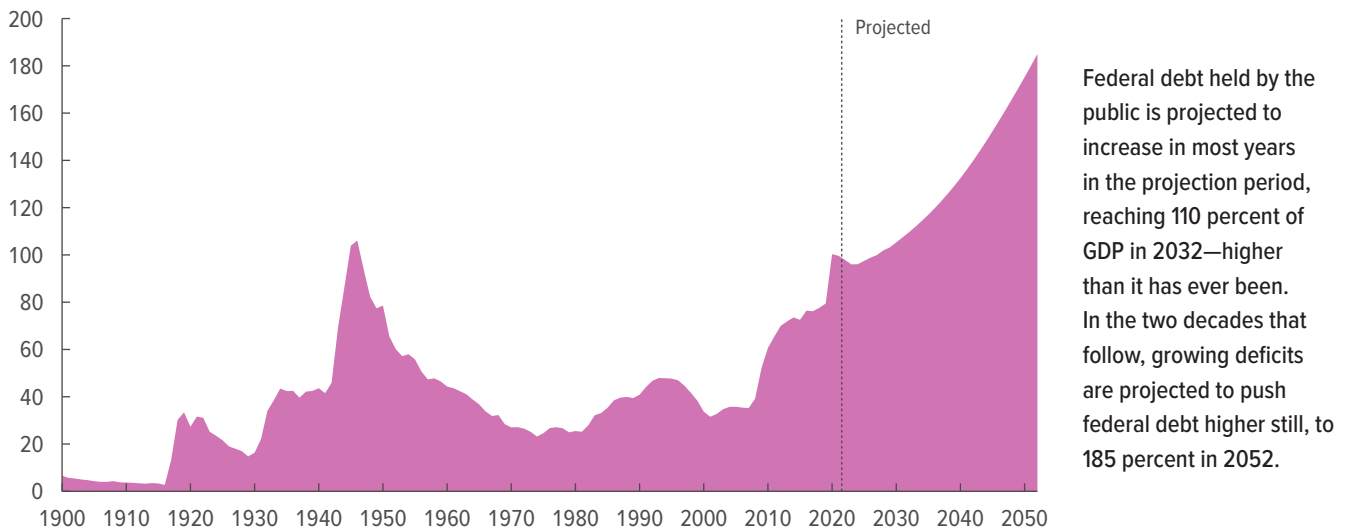
This table satisfies a requirement specified in section 3111 of S. Con. Res. 11, the Concurrent Resolution on the Budget for Fiscal Year 2016.

- Consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, and the Children's Health Insurance Program, as well as subsidies for health insurance purchased through the marketplaces established under the Affordable Care Act and related spending.
- Includes payroll taxes other than those paid by the federal government on behalf of its employees; those payments are intragovernmental transactions. Also includes income taxes paid on Social Security benefits, which are credited to the trust funds.
- Does not include outlays related to the administration of the program, which are discretionary. For Social Security, outlays do not include intragovernmental offsetting receipts stemming from the employer's share of payroll taxes paid to the Social Security trust funds by federal agencies on behalf of their employees.
- The net increase in the deficit shown in this table differs from the change in the trust fund balance for the associated program. It does not include intragovernmental transactions, interest earned on balances, or outlays related to the administration of the program.

Figure 1-8.

Federal Debt Held by the Public, 1900 to 2052

Percentage of GDP



Federal debt held by the public is projected to increase in most years in the projection period, reaching 110 percent of GDP in 2032—higher than it has ever been. In the two decades that follow, growing deficits are projected to push federal debt higher still, to 185 percent in 2052.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product.

The Long-Term Outlook for the Budget

Beyond the coming decade, the fiscal outlook is more challenging. In CBO's current long-term projections, which extend through 2052, budget deficits grow steadily relative to GDP. Those long-term projections follow CBO's 10-year baseline projections for the coming decade and then extend the baseline concept for subsequent years (see Table 1-4 on page 18).¹⁴ Long-term budget projections are highly uncertain. Nevertheless, growing debt and rising interest rates would cause net outlays for interest as a percentage of GDP to rise rapidly through 2052. In addition, growth in per capita spending on health care and the aging of the population would boost federal outlays significantly relative to GDP over that period if current laws generally remained in effect.

14. Details on the long-term budget projections presented here are included with the supplemental data for this report, available online at www.cbo.gov/publication/57950. CBO expects to publish *The 2022 Long-Term Budget Outlook* in July.

Federal revenues also would increase relative to GDP under current law, but they would not keep pace with outlays. As a result, CBO estimates, public debt would reach 185 percent of GDP by 2052, higher than any percentage previously recorded in the United States (see Figure 1-8).

Moreover, debt is on track to grow even larger after 2052. To avoid the negative consequences of large and growing federal debt and to put debt on a sustainable path, lawmakers would have to make significant changes to tax and spending policies—increasing revenues more than they would under current law, reducing spending for large benefit programs below the projected amounts, or adopting some combination of those approaches.¹⁵

15. For further discussion, see Congressional Budget Office, *The Economic Effects of Waiting to Stabilize Federal Debt* (April 2022), www.cbo.gov/publication/57867.